TDP Strategies and Performance Specifications
Modernization Through Spares Conference
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The objective of this working group was to examine the role that TDP strategies and performance Specifications play in the accomplishment of the goals of Modernization Through Spares (MTS). The primary focus of the group was the conversion of existing detail design TDPs consisting of detail specifications and engineering drawings to performance specifications.

With today's reduced defense budgets, there is increased emphasis on modernization of existing fielded weapons systems. These systems, were procured to and are being maintained to detail design TDPs. As they age, these systems become more difficult to maintain, due to component obsolescence. This is especially true of electronic assemblies. Using a detailed design TDP to maintain the weapon system stagnates the design and makes modernization costly and difficult. The use of performance specifications and performance based contracting for spares procurements should enhance readiness and performance at a reduced cost.

While it would be desirable to upgrade all detail design TDPs to performance specifications, this will not be practical. Therefore a practical methodology of prioritizing the candidate TDPs for conversion is necessary. Several decision criteria for this prioritization were reviewed by the working group.

The average Monthly Demand (AMD) projections are important to determine the payback that can be obtained from conversion of an item. Priority should be given to spares that have a high monthly demand and high cost and thus a potential large payback.

An assessment of technical, cost and schedule risk is an important part of the prioritization process. This assessment should include technical, cost and schedule. Assessment of a high risk will invariably increase the cost of the conversion and possibly the verification costs.

Many TDPs do not contain complete performance data at the spare level since a design solution is specified. Additional data must be obtained and the availability of that data must be considered. This may require looking to the next higher assembly for complete performance data.

The verification required to procure the spare to a performance specification is an important consideration in the prioritization process. In many cases a complete requalification might be required for each proposed solution. Also existing test equipment may have to be modified.

Conversion of TDPs to performance specifications requires funding. This would normally come from the weapon system Project Office. This funding would not be necessarily a high priority to these offices. Therefore other sources of funding will have to be sought.

Other considerations for the prioritization of the conversion process are; impacts on overall system integration and potential impacts on system readiness.

The work group looked at methods of implementing MTS through TDP strategies. These included; contractor incentives, Teaming, Grouping of spares, review of the logistics support strategy, obtaining performance data from the OEM and use of Value Engineering (VE) and OSCR.

The use of various contractor incentive would encourage the continuous improvement and modernization of spares for weapon systems. Sharing of savings and reward for modernization should be effective incentives. Longer term contracting would also encourage the contractor to accomplish MTS.

The importance of Integrated product Team (IPT) cannot be overstated. This includes; Government multifunctional teams, Government contractor teams and prime contractor-vendor teams. Proper teaming will ensure an integrated approach to spare part design and acquisition.

There are times when the performance of a spare part can be more adequately described at the next assembly level than at the piece part level. In these cases in may be practical to write the performance specification at the assembly level. Grouping spares to the next level may allow more flexibility in design.

The overall logistics support strategy should always be a consideration. Changes to the support philosophy, allowing for increased contractor logistic support, can be an enabling factor in the TDP strategies. Items that are repairable require the acquisition and maintenance of more technical data than "throw aways".

Where there is insufficient performance data available for a particular spare, and it is undesirable to group to the next higher assembly, it may be necessary to attempt to obtain the necessary data from the Original Equipment Manufacturer (OEM). There will probably be a cost associated with this but it is one option for obtaining the necessary data.

Use of the OSCR and the VE programs are methods for funding the implementation of TDP conversion programs and incentivising the contractors to participate.

As with any new way of doing business there are always impediments to implementation. Funding has already been mentioned and is a real problem. Many times money may be available but might be the wrong "color". Through IPTs functional disciplines have been integrated but the DOD money processes are still stovepiped. Real and perceived impacts to existing logistics strategy are often cited as impediments to using performance specifications. Current logic on the need for requalification of spares increases the costs associated with performance based acquisition and therefore discourages it's use. Data with claimed proprietary rights is may not be used to prepare performance specifications. This usually limits the spare to a single design solution with limited opportunity for modernization. There are statutory and regulatory restrictions that can impede the use of performance based solicitations. These include small business set-asides, set-asides to certain industries. An example is the requirement that cables be manufactured by Federal Prison Industries. Typically these industries have to rely on detail design packages due to a lack of engineering expertise. And finally there is a comfort level with the old way of doing business that is always an impediment to any new methodology.

An example of a successful modernization effort was presented to the group by Mr. Rich Dixon from CBDCOM. The M157A2 Smoke Generator was modernized through

conversion of the detail design TDP to a performance specification. Mr. Dixon said that one of the keys to the success of the program was the close teaming and partnering with the contractor. This program resulted in an $8000 per unit cost reduction while increasing readiness from 74% to 90%. The program is now pursuing a 5 year spare parts buy using the system level performance specification.

In conclusion it is recommended that a decision process be developed and implemented to prioritize the TDPs for conversion to performance specifications. The TRAPS model being used at MICOM does this from a business stand point and could be used refined to take MTS into consideration. Training is necessary for the multifunctional Government workforce with outreach to industry as well. Increased use should be made of longer term spares contracts allowing Non-recurring Engineering (NRE) costs to be amortized in the unit price. Finally Project Managers should make MTS as an integral part of their program strategy.